

ANTHRAX AND BIOTERRORISM FACTSHEET

Information for Healthcare Professionals

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WHAT IS ANTHRAX?

Anthrax is an acute infectious disease caused by the spore-forming bacteria *Bacillus anthracis*. Anthrax most commonly occurs in warm-blooded animals such as cattle, goats and sheep, but can also infect humans. Anthrax infection is most commonly seen in animal handlers.

THE SYMPTOMS

Symptoms usually occur within two to seven days following exposure. Initial symptoms of inhalation anthrax infection may include fever, cough, chest pain, muscle aches, fatigue and headache. Symptoms of inhalation anthrax generally do not include runny nose and sneezing. After several days, the symptoms may progress to severe breathing problems and shock. Without treatment, inhalation anthrax usually results in death within 1-3 days after onset of the acute symptoms. The intestinal GI disease form of anthrax may follow the consumption of contaminated meat and is characterized by an acute inflammation of the intestinal tract. Initial signs of nausea, loss of appetite, vomiting and fever are followed by abdominal pain, vomiting of blood, and severe diarrhea. Intestinal anthrax results in death in 25-60% of cases. Cutaneous anthrax is characterized by a skin lesion which changes from a papule (bump), to a vesicle (blister like) and finally to a painless depressed skin lesion with a black center. The time from anthrax skin exposure to the development of symptoms ranges from 1-12 days.

THE RISK

Although anthrax can be found globally, it is more often a risk in countries with less standardized and effective public health programs. Areas currently listed as high risk are South and Central America, Southern and Eastern Europe, Asia, Africa, the Caribbean, and the Middle East. Direct person-to-person spread of

anthrax does not occur with GI or inhalation anthrax.

BIOLOGICAL WEAPON

Anthrax spores have a potentially long incubation period of subsequent infections. An exposure could cause symptoms as soon as 2 days or as late as 6-8 weeks after exposure.

Since early presentation of inhalation anthrax disease would resemble a fever or cough, it would therefore be very difficult to diagnose without a high

degree of suspicion. The first evidence of a covert release of anthrax as a biological weapon most likely would be patients seeking medical treatment for symptoms of inhalation anthrax. If appropriate antibiotics are not started before development of symptoms, the mortality rate is estimated to be 90%.

TREATMENT

Anthrax is diagnosed by isolating *B. anthracis* from the blood, skin lesions, or respiratory secretions or by measuring specific antibodies in the blood of suspected cases. Given the rapid course of inhalation anthrax, early antibiotic use is essential as delay, even in hours, may lessen chances for survival. For those treated with antibiotics who survive, the risk of recurrence remains for at least 60 days. The preferred antibiotics for treatment of anthrax are doxycycline, ciprofloxacin, or amoxicillin.

The anthrax vaccine for humans licensed for use in the United States is a cell-free filtrate vaccine, which uses dead as opposed to live bacteria. The vaccine is reported to be 93% effective in protecting against cutaneous anthrax. However, vaccination against anthrax is not recommended for the general public or available.

All suspected cases of clinical or laboratory anthrax should be reported to the Health Department immediately.



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